

# Formation of the effectiveness of public and private sector companies of the maritime industry based on an integrated analysis of financial results

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## Abstract

The maritime industry in Lithuania is based on the public, state, and private sectors, and on the interests, activities and partnership of business companies operating in the aforementioned sectors. Despite the management of the public sector in Lithuania being criticized for showing performance shortcomings, the state of Klaipėda's seaport management and performance results refutes this criticism. The overall result of partnerships and co-operation is obtained – it reflects the port's competitiveness level in the region. According to a report conducted by the International Monetary Fund, the potential output growth in 2014–2015 has declined since the global financial crisis. Policy actions are required to boost the productivity levels, and to foster capital growth. In order to achieve these objectives, it is essential to know the company's financial situation better, because the better the financial state of the company, the more new port service users, cargo owners, shipping lines, and investors it attracts. The standard analysis of financial indicators is insufficient. Hence the method of integrated analysis is applied. The results of it might be considered as guidelines for both the state seaport authorities in order to improve the port's competitive position in the region, and for the private companies for their business development.

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## 1. Introduction

The effectiveness of activities in the maritime sector, which are based on public and private sector co-operation and partnership, generally strengthens the international and political positions of the country, as the activities and development in the sector have a direct link with international economic cooperation, attraction of foreign investments, membership in international organizations and other crucial factors.

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The **scientific relevance** of the issue justifies the idea that by defining the problems of effectiveness from the point of view of globalization and integration, some problematic analogies may be determined. It is essential to point out these problematic analogies in order to increase the efficiency and effectiveness of the activities in the maritime industry. According to the results of the public administration research, certain weaknesses in the management of the public sector may be found, as well as in flexibility, entrepreneurship, performance and other shortcomings (Gudelis & Rozenbergaitė, 2004; Guogis & Gudelis, 2009; Patapas, Raipa, & Smalskys, 2014; Raipa, 2009, 2014). There is a lack of financial and economic research of the Lithuanian maritime industry. The financial analysis of maritime companies, evaluation of efficiency and principles of economic behavior formation according to economic cycles is an insufficiently analysed area. The studies and research of foreign authors from different countries (Baird, 2002; Branch, 2009; Cariou, Ferrari, & Parola, 2015; Cullinane, 2011; Harwood, 2009; Stopford, 2009; Talley, 2012, etc.) focus more on the economic impact rather than the efficiency of the maritime industry.

The **object of research** is the economic effectiveness of maritime industry companies in the post-crisis period, in the years 2010–2014. It must be noted, that the effectiveness of these companies plays a crucial role in attracting foreign investments and in the development of the companies operating in the industry.

The **objective** of the research is to determine problems associated with the formation of effectiveness in the maritime industry in the post-crisis period, according to the cyclic developmental trends in the maritime industry, based on an integrated analysis of the financial results of maritime industry companies.

The **main tasks** of the research are the following:

1. To theoretically support the use of an integrated analysis of financial results as a method to evaluate the performance of public and private sector companies of the maritime industry in relation to local and global economics.
2. To analyze the financial performance of public and private sector companies in the maritime industry of Lithuania using an integrated analysis of financial results.

*Research methods:* analysis of the scientific literature, statistical analysis, integrated analysis of financial results, ranking key economic performance indicators.

According to the authors of the research, it is necessary to evaluate the effectiveness of companies based on their financial indicators, because these indicators make an evaluation of a company's competitive position in the market more reliable, and provide a credible basis for predicting future developmental trends and decision-making as well. It is also necessary to take into account the mismatch between the economic cycles of the maritime sector and other business sectors, its scale of effect, and the influence of macroeconomic indicators (Belova & Mickiene, 2008, 2010, 2011, 2012). It has been determined that in the general analytical activities of enterprises, standard methods of financial indicator analysis prevail, yet in aiming to reflect their state more accurately, it is crucial to apply an integrated analysis of financial results and ranking key performance indicators (Mackevicius, 2008; Mackevicius & Valkauskas, 2010).

Empirical research was conducted on two different private stevedoring companies, significant for their Klaipėda port activity and the Klaipėda State Sea Port Authority, a state enterprise. The selected stevedoring companies, the Klaipėda Stevedoring Company, JSC (KLASCO) and Klaipėdos Smelte, JSC are relatively similar in terms of the long duration of their activity in the port industry, as well as their geographical location, sufficient space in their territories for handling and storage, and versatility in processing good freight traffic. However, the change in the nature of their activity differs – the activities and specialization of KLASCO have remained unchanged, although they still occupy the largest share of the market and their development is consistent and oriented in the same direction, whereas Klaipėdos Smelte has fundamentally changed its specialization since 2008 – from general cargo to containerized cargo. Also, the foundations for the Klaipėdos Smelte container distribution centre (hub) have changed their status in the Klaipėda Sea Port – from being a feeder port (Short Sea Shipping, Port-to-Port) to a hub.

According to the integrated key performance analysis of a company's efficiency from the point of view of global economics: according to the evaluated status of a company's effectiveness, it is possible to define its economic behavior under the fluctuation of global economic conditions by an assessment on two levels: internal management functions, and external, in view of the adaptation of a company under changing market conditions.

## 2. Theoretical aspects in the analysis of effectiveness by applying the methodology of integrated key performance indicators

When analyzing the effectiveness of companies operating in the international market, it is impossible to avoid the influence of globalization and versatility, which forms the effectiveness of the relevant companies. Consequently, this defines the necessity of assessing a company's integrated performance and effectiveness.

From the point of view of content and an axiomatic approach, the problems of global economics are examined and analysed through two competing paradigms – methodological individualism and methodological holism, universality. The globalization process is usually reflected by the complicated regional, transnational and global network of relationships, and responds to the new knowledge-making paradigm and the reasoning of collaborative and network-ing activities, including the mobility of the labor force and capital (Bauman, 2002; Giddens, 2000; Held, McGrew, Goldblatt, & Perraton, 2002; Tomlinson, 2002). Nonetheless, under the context of globalization, next to universality, the significance of place must also be emphasized, i.e. *locus*, and when the financial and information activity flows reach the global level, the completely opposite process of localization begins, which forms and restricts the space (Bauman, 2002).

In view of the paradigm of universality and integration, the effectiveness can be treated in two ways: as the achievement of organizational goals (external effectiveness), and as the optimization of an organization's activity processes (internal efficiency). In both cases, it means efficiency and the best results.

In order for the companies to remain in the competitive market and to ensure the continuity of business, they must analyse their performance and apply performance analysis methodologies, which describe their current situation more accurately. The correct evaluation of a company's state allows it to foresee possible opportunities for expansion and other possibilities more objectively – this is one of the crucial conditions for any company's survival and development. An evaluation of a company's performance is one of the key sources of its economic information, due to the fact that comprehensive analysis of the economic behavior and phenomena of the company determines the underlying factors and causes of the phenomena, or any change in the technical economic indicators of the phenomena. It also allows the company's performance to be objectively assessed, with regard to the organizational and technical levels and the peculiarities of the activities. The aforementioned analysis also gradually reveals the company's internal and external reserves, identifies measures to improve the performance and the control of the implementation of these measures, and it also foresees the company's future prospects (Mackevicius, 2008). The evaluation of the enterprise's performance allows envisaging the possibilities and advantages of the company in the competitive market, and in critical situations – to determine the riskiest areas of business. The analysis of the company's activities is particularly relevant for the investors and managers. From the investors' point of view, the analysis is important for foreseeing future events, and for the managers, it is not only important for predicting the near future, but also for planning activities and business models which would guarantee the continuity of work.

It may be stated that an economic cycle changes the economic environment – from stable to developing and unstable. Usually, different indicators are used to analyse the impact of the economic cycles, as they reflect national business or economic activities. The ones that mostly affect national economies are the pace of the total gross product and the internal national product growth (GDP), the inflation rate, unemployment rate, money rate, currency fluctuations, resource cost (basic stores, energy, etc.) and the investment climate. The maritime business indicators for cyclic development trend analysis are ton-miles, profit from activities, sales, capital profit and others (Branch, 2009; Harwood, 2009; Stopford, 2009). Cyclic development affects all areas of port activities: freight (amount, type), ships (number, type, freight rates), capital (needs, price, financial efficiency of the owners), staff (number, salaries) and business efficiency (profitability of freight carriers and other transport companies).

According to economic theory (Ansoff & McDonnell, 1998), there are different approaches to the definition of effectiveness, which are connected with the search for different assessment criteria of the results of activities, as well as with a number of changes influencing the result, e.g., when assessing the financial efficiency, as a rule, one speaks about the level of compliance of the indices given for assessment (the compliance of the actual indices showing the profitability of an organization compared to the recommended level of the given indices).

The effectiveness of a company may be evaluated in the short-term and long-term considering the aims and prospects of activities. Profit and quality are important in the short term, whereas development and ensuring competitiveness in the long term. In analyzing effectiveness in the short term, the express methodology is applied, which is based on national accounting standards. The methodology of an analysis of effectiveness in the long term is combined with an internal

(increase in profit, improvement of services, etc.) and external (competitiveness, changes of market, environment, technologies, etc.) evaluation of effectiveness.

The assessment of the effectiveness, i.e. correspondence to the indicated criteria, of activities in any period of an economic cycle, turns to an assessment of the rationality of the assessment of optimality within the given constraints. The integration of different attitudes into the assessment of effectiveness may be considered to be the degree of achievement of the given tasks.

The long-term performance assessment describes the quantitative and qualitative performance indicators and describes their influence on the integrating indicators (Gibson, 2012) (1).

$$E = \int (k_i \cdot (E_1; E_2; E_3; E_4)) \quad (1)$$

In the formula:

$E_1$  – marketing indicators: market share, business volume growth, quantitative and qualitative indicators of goods and services, marketing expenses level, reputation, etc.;  $E_2$  – financial effectiveness indicators;  $E_3$  – internal business process performance indicators: resources, sales revenue and the ratio of resources, etc.;  $E_4$  – development indicators: investments, research expenses, etc.;  $k_i$  – the significance rate of the indicator group.

The significance rate  $k_i$ , the rate of influence, is determined by considering the group of indicators. Usually, the significance rate of the marketing, finance and development indicators is 22%, with an internal business process efficiency rate of 34% (Gibson, 2012).

The short-term financial performance may be evaluated similarly. (Gibson, 2012) (2).

$$e = \int (k_j \cdot (\lambda_1; \lambda_2; \lambda_3; \lambda_4)) \quad (2)$$

In the formula:

$\lambda_1$  – profitability ratio;  $\lambda_2$  – turnover rates;  $\lambda_3$  – solvency indicators;  $\lambda_4$  – input level indicators;  $k_j$  – the significance rate of the indicator group.

The significance rate  $k_j$ , the rate of influence, is determined by considering the particular nature and definition of the activities of the company.

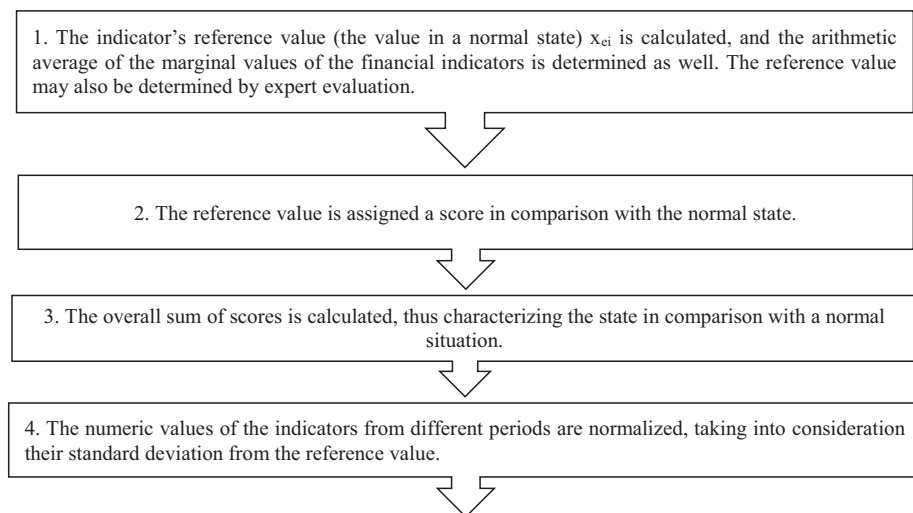
It was found that currently, the most commonly used methodology for assessing the corporate financial position and operating results, which analyses the absolute financial and relative financial indicators, is not sufficient (Mackevicius & Valkauskas, 2010). It is rational to apply an integrated analysis of financial results and the ranking key performance indicators, which consists of the following elements:

- (1) analysis of the change in the absolute financial indicators,
- (2) calculation and assessment of the relative financial indicators,
- (3) standardization and analysis of the relevant indicators.

For applying the methodology of an integrated analysis of financial results and the ranking key performance indicators, a system of relative financial indicators is prepared and applied for a certain period of time. This system summarizes and generalizes the indicators that define the financial state and performance results in consideration of changes in the indicator values.

One peculiarity of the integrated analysis methodology is the standardization of the indicators and the analysis of standardized meanings (Fig. 1), i.e. calculation of the reference values of the indicators and assigning them a score, relative to the normal state of an enterprise, and the calculation of the deviation of scores of the factual state and the reference state. The larger the negative deviation is from the reference standard, the weaker the company's operating link is, and the bigger the risk of its operating in the field. The dynamics of the overall sum of the indicator scores define the general changes in the company's state.

The methodology for determining the reference value is especially important (Fig. 1). In some cases, the reference value may be determined using the expert method. Summarizing the results of expert surveys, a company can determine the optimal and most appropriate reference indicator values. Other sources of information may also be used in order to assess the reference value, e.g. the values of the indicators at a certain period of time. In this case, a time series of indicator values are formed and summarized using statistical methods.



**Source:** Mackevicius, J., Valkauskas, R. (2010). Integruota įmonės finansinės būklės ir veiklos rezultatų analizės metodika. *Verslas: teorija ir praktika (Business: Theory and Practice)*, 11(3), p. 217-218.

Fig. 1. Stages of data standardization.

With the application of the methodology of integrated analysis of financial results, a company's financial state and performance results may be better assessed. Also, its operational decisions may be rationally justified.

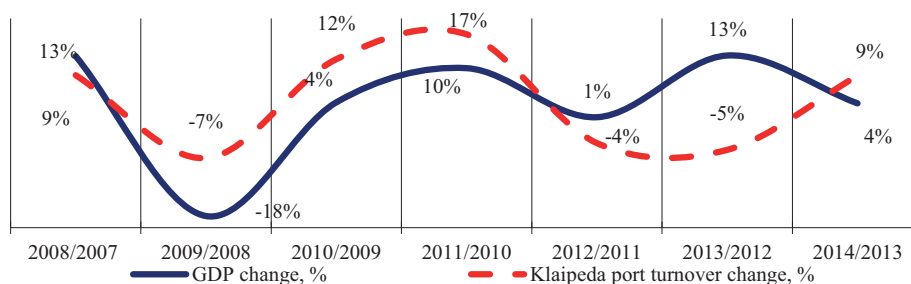
### 3. The cyclical nature of national economics and port activities in partnership with public and private sector companies

The transport sector and its infrastructure are essential to the growth and development of a nation or state. Seaports are usually a strategic area for state development and economics. According to the World Economic Forum estimations, in 2008 Lithuania was considered as one of the countries where the economy is based on performance. Whereas since 2009 Lithuania (like Latvia and Estonia as well), is considered to be a country in its transition stage to innovation-based (knowledge) economy. Governments, operating on razor-thin budgets, especially in countries of transition, must be equipped to make the necessary investments in strategic areas. According to the port's importance for state development and economics, many government organizations are tapping into the private sector for capital, technology and expertise to finance, develop and manage public sector infrastructure projects. State development policy is also oriented and coupled with the right sets of policies and institutional environments, and these public–private partnerships (PPPs) can also become catalysts for economic growth (Abouchakra, Hammami, Najjar, & Shediach, 2008).

As a rule in public administration theory and research, critical observations can be seen regarding the management of the public sector reflected in flexibility, entrepreneurship, performance and other shortcomings (Gudelis & Rozenbergaite, 2004; Guogis & Gudelis, 2009; Patapas et al., 2014; Raipa, 2009, 2014). The analysis of the state seaport's management situations and performance results refutes this opinion – the management of the port based on its partnership with public and private sector companies, and the government investment in the development of the port infrastructure has extended the area of the private sector companies to operate effectively. Thus, the overall result of the partnerships and co-operation is obtained - the port's competitiveness level.

In global trade and logistics, the maritime logistic chain takes an important role. In the port infrastructure and superstructure, the logistic processes of cargo transportation by different modes of transport are combined into a united system. The partnership of the public and private sector companies is highlighted in the area of the state seaport's activities. On the basis of a port activity management classifier, the activities of the state seaport belong to the landlord group, i.e. the state and public sector, represented by the port authority, leases the territory on a long-term basis to port companies from the private sector. The main sources of the state seaport budget are the port dues (over 85%) and income from leases of the territory (15%). The private companies operating in the port provide and fund superstructure development projects. The port administration funds projects related to infrastructure development with its own funds





Source: Annual Klaipeda State Seaport Authority Cargo Handling Reports (2007–2014); Lithuanian Statistics Department (2015)

Fig. 2. The cyclical nature of Lithuanian economics and port of Klaipeda activities.

and those attracted by investors (Stopford, 2009). In regard to state port cargo, handling terminal operations depend on the results of the private sector stevedoring companies, which include state seaport effectiveness, productivity and throughput. These factors characterize the competitive position of the port.

The role of the Port of Klaipeda is significant in the Lithuanian economy – it accounts for 4.5% of the total Lithuanian GDP. Taking into account all the related activities (motor transport, logistics, etc.) – it is related to 18% of Lithuania's total GDP. Each euro of port income brings 78 cents to Lithuania's budget, and each ton of cargo handled by the port during 2013 brought about €3.25 in taxes. More than 800 different types of companies are engaged in port-related activities. Approximately 185,000 jobs have been created by the operations of the Port of Klaipeda, thus showing the importance of the port not only to the economy of the country, but to society as well.

It is necessary to point out that the beginning of a crisis in the sea freight market usually falls behind the onset of a pan-economic crisis (normally it emerges a half year later). While the beginning of the 2008 crisis was in March and April, it only started influencing the maritime sector at the end of the year.

The total transfer volumes in European ports from 2002 until 2007 were steadily increasing until they reached 3.9 billion tons in 2007, but they did not change in 2008. In 2009, after the impact of the crisis reached the freight markets, the ton-miles were 3.4 billion tons, a decrease of 12%. Although there was some increase in 2010, and in 2011 the ton-miles amounted to 3.7 billion, it did not reach the level of 2008. The increase in ton-miles in 2011 compared to 2010 was 2%. The permanent growth of the cargo turnover of all 11 Eastern Coast Baltic Seaports up to 2008 started to decrease during the second half of 2008. The trend of this decrease continued in 2009.

Similar trends are characteristic of Lithuania as well. In following the results of the statistical analysis of Klaipeda port freight and Lithuanian GDP changes, it can be seen as being of cyclical nature and the similarity between the trends of national economics and the indicators of port activities is obvious (Fig. 2).

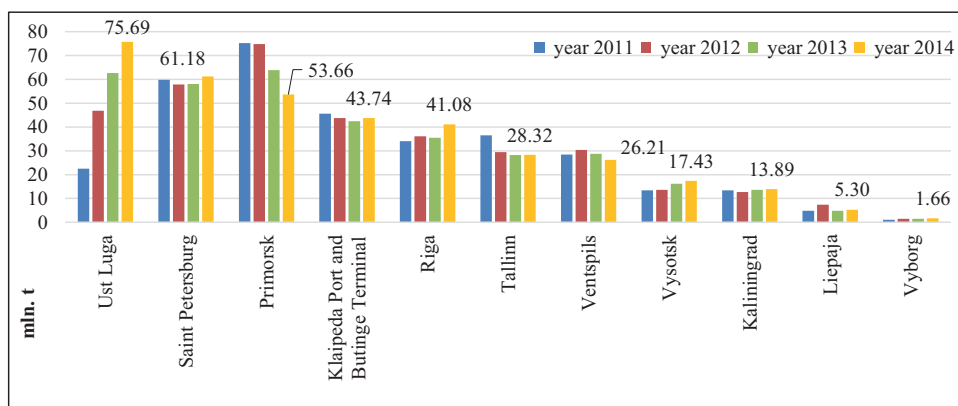
The dynamics of the development of the main economic indices of Lithuania were negative in January of 2008–2009 (Fig. 2).

The Lithuanian economy was at its worst in 2009, when the national product decreased by nearly 18%. From 2010 and onwards, the situation improved, and there was positive growth in the GDP in relation to significant European loans. Cargo handling volumes in the Port of Klaipeda had decreased by 7%, but in 2010 the growth increased by almost 12%. It is worth noting that the growth in the volumes of handled cargo reflected the increase in consumption and economic growth.

After their growth during 2010–2011, the indices of the cargo handling of the Port of Klaipeda decreased again in 2012, but in 2013, they increased again.

The cycle period of the fluctuations in cargo turnover in the Port of Klaipeda took approximately two times longer than the period of GDP fluctuations, i.e. although the port experienced one cycle of cargo handling change, the GDP experienced a change of two cycles during the same period of 2011–2014.

The analysis indicates that the crisis increased the competition in the market of port services. It determines the methods of competitive rivalry and positions in the market of port services. It should be noted that in the Lithuanian maritime sector, the impact of the crisis was felt later than in the whole country's economy; however, in the Lithuanian maritime sector, one peculiarity can be observed in that the “decline” is lower and the “growth” is higher than the national economy (Fig. 2).



Source: Annual Klaipeda State Seaport Authority Cargo Handling Reports (2007–2014)

Fig. 3. Eastern Coast Baltic Seaports cargo turnover 2011–2014.

This can be explained by the fact that the port activity depends on both: the fluctuations in the national economy of Lithuania, and the fluctuations in transit freight.

The post-crisis period, which began in 2010, started in different ways for the Eastern Coast Baltic Seaports (Fig. 3). After the restrictions of the Russian Federation on transport policy, the majority of freight flows, which had moved through the ports of the eastern coasts of the Baltic Sea, were directed through the ports of Russia.

The activity of the newly built port of Ust-Luga dramatically changed the situation of cargo handling at the ports (Fig. 3). The cargo turnover of the port of Ust-Luga in 2012 increased by 108%, as compared to 2011, in 2013 by 34%, and in 2014 by 21%. The projected volume of cargo handling in the port of Ust-Luga is 180 million tons. At the same time, the cargo handling of the other ports in the region decreased. The cargo volume in 2012 of Russian ports along the east coast of the Baltic Sea region (Primorsk, Ust-Luga, Saint Petersburg, Vysotsky, Vyborg) increased in comparison with the previous years by approximately 22%, while in the other ports (Klaipeda (Lithuania), Riga, Ventspils, Liepaja (Latvia) and Tallinn (Estonia)) it only increased by 8%, respectively in 2013, and in the Russian ports it increased by 8%, while in the other ports of this region, a decrease of 10% was evident.

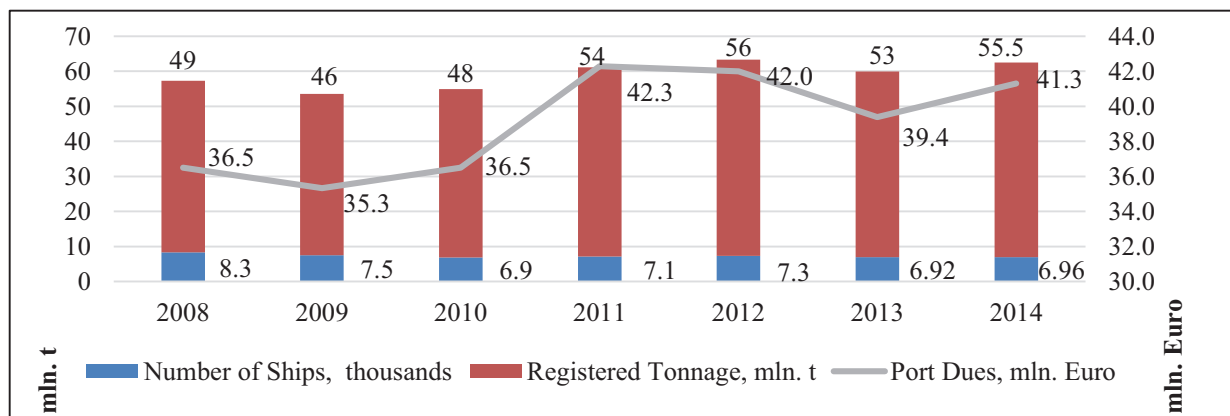
Cargo handling volumes in the Russian ports increased in 2014 as well, however, to a lesser extent with an increase of only 5% observed, in comparison with 2013. It is likely that it was influenced by a more extensive increase in the cargo handling of the other ports of the region, where cargo handling increased by approximately 14% in comparison with 2013 (Fig. 3). However, this increase in cargo handling, meaning the recovery of the entire maritime sector, did not reduce the negative impact of the increased intensity of cargo handling in the Russian ports – the overall average of the cargo handling change during the post-crisis period in the Russian ports was 12%, while in the other ports of the region, only 1%. Nevertheless, it is significant to not only assess the competitive environment of the port, but to also take into consideration the geopolitical situation.

Cyclical fluctuations are typical of port profit, which is based on port income (mainly – port dues) indicators. Port dues, which depend on a vessel's type and size, are estimated for the gross tonnage of the vessel. The correlation between the number of vessels, their tonnage and the income from the ship dues shows the impact of the cyclical fluctuations (Fig. 4).

It is characteristic of the crisis year 2009 that all the indicators decreased, and in 2011 they were higher than the pre-crisis indicators. Throughout the crises period, port dues only decreased in 2009, by 3%.

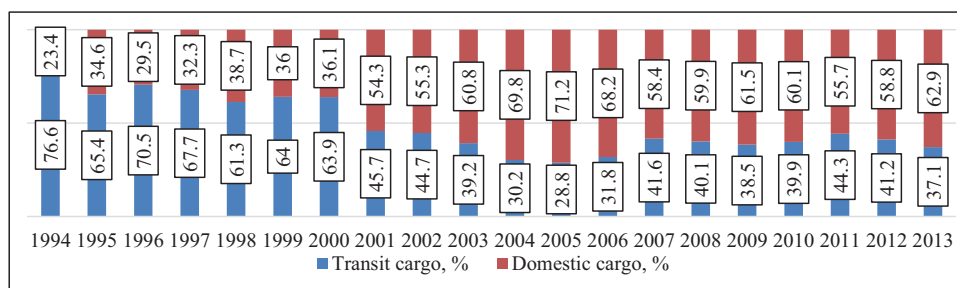
The port of Klaipeda is located at the crossing of two European transport corridors (first motor and ninth rail), and the port of Klaipeda is multi-modal. Since 2001, significant changes have occurred in the directions of cargo flow through the port of Klaipeda, and more particularly, in the direction of cargo dominated by the export of local goods (Fig. 5).

Transit freight accounts for about 40% of the port ton-miles. It has a significant impact on the port indicators (Fig. 4). The port is a strategic object for the country's economy as well as for its neighbors and long-term business partnerships (Belarus, Germany, Russia, Kazakhstan, etc.). This is reflected in the export, import and transit port freight traffic indicators.



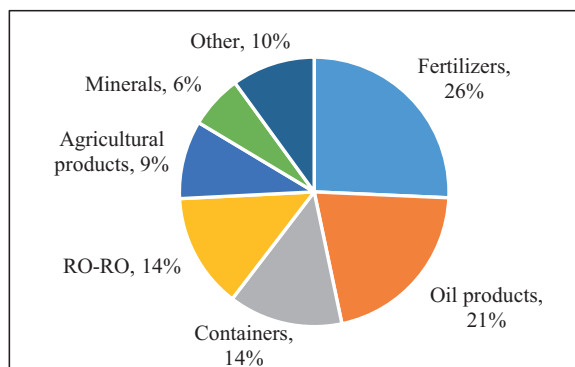
**Source:** Annual Klaipeda State Seaport Authority Cargo Handling Reports (2007–2013); Annual Klaipeda State Seaport Authority Reports (2008–2014) (Port Dues in 2014 – prognosis.)

Fig. 4. Cyclical fluctuations of shipping indicators 2008–2014.



**Source:** Annual Klaipeda State Seaport Authority Cargo Handling Reports 2007–2013

Fig. 5. Freight direction in Port of Klaipeda 1994–2013.



**Source:** Port Statistics (2015)

Fig. 6. Structure of freight in the Port of Klaipeda in 2014.

The main freight of the port of Klaipeda is fertilizers, oil products, containers, and ro-ro. They make up about 75% altogether (Fig. 6).

In analyzing the structure of freight (Fig. 6), it is necessary to point out that all of the different types of freight are characterized by different influences and trends. Ro-ro and container transfers coincide with the economic cycle. The main content of ro-ro freight is consumer goods, which is why the ro-ro market is mostly affected by consumer demand. Klaipeda is the main port of the Eastern Baltics for ro-ro transfers. All ro-ro freight is transported via three ro-ro lines that connect Klaipeda with Sweden and Germany. About 55% of this freight is import and 45% is export.



Container freight has experienced one of the most positive trends in the Eastern Baltics, with an increase of 5.5% in 2013. A significant increase in freight traffic is mainly related to the construction and capturing of container terminals and the new container distribution centre, established by the Klaipėdos Smeltė Stevedoring Company. The transfer of fertilizers greatly depends on the agricultural market. The crisis of this market, which is a characteristic of the Baltic Sea region, also affected the transfer indicators. According to the latest information on the influence of the crisis, the 2009 crisis did not significantly affect this type of freight traffic, but in 2012 there was a dramatic decrease in it of 16%. Nevertheless, this cargo is the main type of freight for the Port of Klaipėda, and accounted for 26% of the total cargo handling of the port in 2014. Oil product transfers are considered to be stable, as they kept increasing during the crisis years, but in 2013 they decreased by 14%. This kind of freight traffic greatly depends on contracts with Russia and Belarus and not only on economic, but rather political factors. The Baltics are characterized by the active construction of oil terminals by Russia and its monopoly politics in this sphere. It is likely that this flow of freight will additionally decrease because the new LNG terminal will start its activity, and it will reorient the energy market by decreasing the handling from Russia and increasing the handling from other regions.

While overcoming the consequences of the economic crisis, the activity of the Port of Klaipėda was affected by the port's universality. The Port of Klaipėda handles many different types of cargo. There is no real dominating cargo type in the port. Therefore, when the business and economic conditions vary, there is a higher probability of retaining its handling volume. It should be noted that even though the Port of Klaipėda itself is universal, the cargo handling companies tend to specialize in their activities.

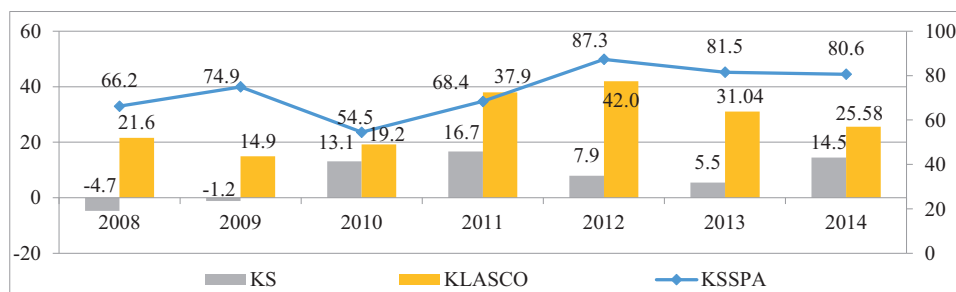
#### **4. Financial performance analysis of the Lithuanian maritime industry's companies**

There are 14 stevedoring companies in the Port of Klaipėda. Most of the companies specialize in accordance with the types of handled cargo. The private business companies that have the dominant position in the dry cargo market and handle the main amount of this cargo in the Port of Klaipėda are analysed in the research, the Klaipėda Stevedoring Company, JSC (KLASCO), and the Klaipėdos Smeltė Stevedoring Company, JSC (KS).

The Klaipėda Stevedoring Company, JSC (KLASCO) continues the traditions of the Klaipėda Sea Merchant Port that was established by the Lithuanian State 70 years ago. It is the largest, most versatile and successful stevedoring company operating in the port of Klaipėda; its annual cargo turnover is more than 13 million tons on average, and it occupies 38% of the Klaipėda port services market. It provides activities at five specialized terminals, designated for general cargo, dry and liquid fertilizers, grain, and Ro-Ro cargo, and the company handles and provides for the storage of dry, liquid and packed fertilizers, molasses, metal products, ferroalloys, frozen food products, grain crops, and other dry bulk and bulk cargo. The International Ferry Terminal handles Ro-Ro cargo and renders services to passengers. It specializes in handling bulk cargoes.

The Klaipėdos Smeltė Stevedoring Company, JSC (KS) was established in 1945 when the Klaipėda Fishing Port opened. Klaipėdos Smeltė provides storage and handling of containers, oversized and overweight machinery, frozen meat and fish products, and other types of packed and bulk cargo. The company operates specialized warehouses (refrigerators) and open sites for cargo handling. Its annual throughput capability currently exceeds 3.5 million tons. The company has been changing its specialization since the crisis period (since 2008) from general cargo to containerized cargoes, and at the moment, it accounts for 6% of the handling market, however in 2015, when the newly built Mediterranean Shipping Company (MSC) container distribution centre starts, the company plans to increment the volume of handling by several times. The implementation of the company's development program would result in an annual throughput capacity of 900,000 TEU (the amount of containers handled in 2014 was 175,658 TEU). The changes in the company's specialization and investment policy reflect the status of the Klaipėda port – it will change from a feeder port to a hub port, which receives containers delivered from distant regions of the world by ocean-going container ships and afterwards loads these containers onto smaller-sized container ships for distribution among peripheral ports.

The stevedoring activities and cargo turnover of the private companies depend on the port infrastructure, which is not privatized. The State Enterprise Klaipėda State Seaport Authority (KSSPA) manages the land and water territory of the port, the quay-walls, hydro-technical equipment navigation routes, canals and other objects of infrastructure and assures their activities. On the other hand, the main objective of the KSSPA is to permanently develop the port, maintain its competitiveness and increase cargo handling volumes. The activity of the private companies is directly



**Source:** Annual Klaipeda State Seaport Authority Reports 2008–2014; Annual Klaipeda Stevedoring Company (KLASCO) financial reports 2008–2014, Annual Klaipedos Smelte Stevedoring Company, JSC financial reports 2008–2014

Fig. 7. EBIT Indicator of Lithuanian Maritime Industry Companies 2008–2014.

related to the activity of the state enterprise, KSSPA. Thus, the results of this organization and these companies are analysed together.

One of the most significant financial indicators is profit. The earnings before interest, taxes, depreciation and amortization (EBITDA) indicator characterize profit. According to the changes in this indicator, it can be observed that the profit of the stevedoring companies dramatically decreased during the financial recession period of 2008–2009, but tended to increase in the post-crisis period (Fig. 7).

The loss of Klaipedos Smelte amounted to 4.7 mln. LTL (1.4 mln. EUR) in 2008, and in the same period the company started changing its specialization. The new container terminal was also being built and exploited for the MSC container line at that same time. Due to these factors, the company's profit increased by more than 10 times up to 2010. Since 2012, "Klaipedos Smelte" has started investing in container distribution centre (hub) construction projects, so the flow of containers decreased and consequently the general income also decreased by almost three times. However, when the container hub went into service in 2014, the profit increased significantly.

The EBITDA indicator of KLASCO profit decreased by only 30% in 2009 and kept on consistently increasing later on (Fig. 7). The decrease in the company's profit in 2013–2014 was related to a decrease in the freight traffic due to the reconstructions taking place at that time and the insufficiency of the port infrastructure (the insufficient depth of the berths, to be more precise). KLASCO is providing 10–20 mln. EUR for the development of new terminals annually for the next several years. The biggest part of the investment will be used for the construction of new bulk cargo (agricultural and fertilizer) covered warehouses, and for reconstructing the cargo handling terminal territory. Hence, the changes in the companies' profit are closely related to the changes in the companies' superstructure, which attract greater cargo flows. The cargo is transported by ships, so it automatically leads to an increase in the number of these ships arriving and the capacity of these vessels, thus promoting the need for improvement of the port's infrastructure, for which the KSSPA is responsible. On the other hand, the greater the amount of incoming ships and their tonnage, the more port charges need to be paid, so the KSSPA invests more into the port's infrastructure in order to make a greater profit.

The influence of cyclical fluctuations in the main port freight indicators can be summed up on the basis of the main activities. The financial key performance indicators of the companies' profit and yield of 2014 was analysed. Because the companies' activities and their indexes are different, the method of rating will be applied. The assessments of the indicators that result will be ranged from the lowest (1) to the highest (3) (Table 1).

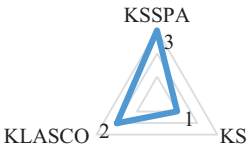
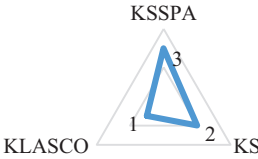
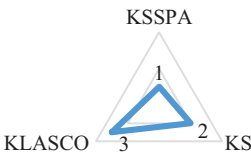
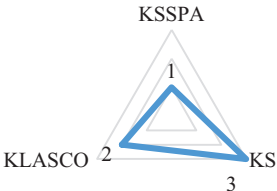
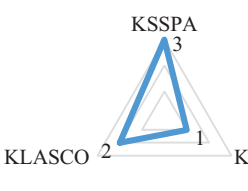
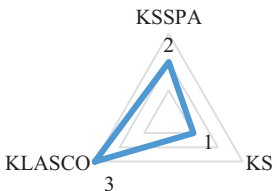
In analyzing the solvency of the companies it was found that in 2014, the solvency of Klaipedos Smelte was rated as the worst (Table 1, a), and the current solvency ratio of Klaipedos Smelte did not meet the recommended level in 2013–2014 (0.2 and 0.21 accordingly). This phenomenon is closely related to the significant increase of short-term liabilities.

The leverage indicator is considered as the financial risk indicator – the smaller the indicator's value is, the better the situation of a company is (i.e. the lower the operational risk is). Compared to Klaipedos Smelte, the operations and activities of KLASCO include a greater risk, whereas the risk level of KSSPA is the lowest (Table 1, b).

In analyzing the efficiency of capital usage, the financial indicator of owned and invested capital profitability (Table 1, c), the Return on Capital Employed (ROCE), and Return on Equity (ROE), it was found that the values of the

Table 1

Rank of key performance indicators of port of Klaipeda companies in 2014.

a) Current Ratio (Solvency)	b) Leverage	c) ROE, ROCE
		
d) RONO	e) ROS	f) ROA
		

**Source:** Annual Klaipeda State Seaport Authority Reports (2008–2014); KLASCO, Klaipedos Smelte Balance, Profit and Loss Accounts (2010–2014)

aforementioned indicators of KLASCO are higher than those of Klaipedos Smelte. The investments of the stevedoring companies are directly linked to the improvement of the cargo handling superstructure (cargo handling equipment, storage area) therefore the results become manifest immediately after the investment.

The profit and profitability of the selected companies were assessed by applying the Return on Net Operating Assets (RONOA) indicator (Table 1, d). The research showed that the indicators of Klaipeda Smelte were rated as the best; this demonstrates the appropriate management of the company's activity and the correct development of the chosen container handling course.

With regard to the Return on Assets (ROA) indicator, the indicator of Klaipedos Smelte was rated as the worst, and KLASCO's financial indicator was rated as the best (Table 1, f). This occurrence may be explained by the fact that while the construction of the container distribution centre was completed in 2014, the construction required a significant amount of investment and the centre was only put into operation in the second quarter of 2015. The ROA indicator is directly linked to the indicator of Return On Sales (ROS), which reveals the effectiveness of the services provided by the stevedoring companies (e.g. cargo terminals, cargo types, handling equipment, process control, etc.), and it also characterizes the demand, quality, and status in the market of the services of port and cargo treatment and processing (Table 1, e).

The analysis of the financial indicators positively describes the activities of the state enterprise, KSSPA. The indicators of Current Ratio (Solvency), Leverage and return on sales, ROS are relatively better compared to the private stevedoring companies. While analyzing the companies' indicators of solvency and leverage (Table 1, a, b), such values of the indicators raises a justified presumption that although money in the company is accumulating, the unoriginal capital is not attractive, the policy of credits is inactive, and thus it is essential to enhance the utilization of finances with the sale of stock. On the other hand, the accumulation of finances was inevitable in relation to the construction of the newest LNG terminal. The lowest indicator of RONO is in the KSSPA, because the main capital of the company is composed of leasehold property, which constitutes only 15% of all the income. The highest values of indicators of the KSSPA are Current Ratio, Leverage and Return on Sales (Table 1, a, b, e), which justifies the direction of investment of the seaport authority, and the appropriate policy of levies.

Table 2  
Reference standard.

Indicator	Reference standard of state enterprise	Reference standard of private stevedoring companies
ROS	7.5	7.5
ROA	11.5	11.5
ROE	15	15
RONOA	11.75	10.9
ROCE	10	10
Leverage	0.25	0.25
Solvency	1.35	1.35
Total score (*100)	5735	5650

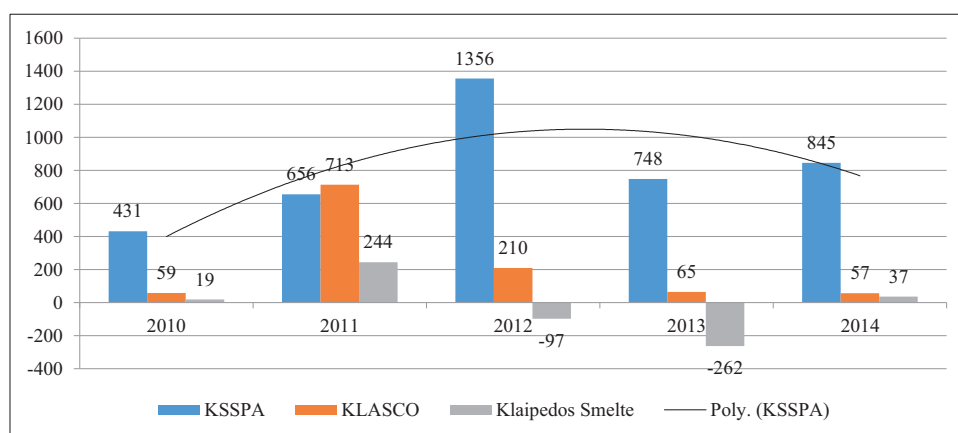


Fig. 8. Financial deviations of the indicator of maritime industry companies 2010–2014.

In order to comprehensively apply the methodology of an integrated key performance analysis of the private and state-owned companies, the changes in the companies' financial indicators from 2010–2014 were analysed.

The reference values of the financial indicators were calculated using the average of the companies' financial indicators analysis and applying the conclusions of experts. Uniform reference values were set for the stevedoring companies. Forasmuch as the KSSPA controls the whole infrastructure of the port, and the stevedoring companies establish their loading terminals in that infrastructure, the reference value of the RONO indicator of the KSSPA was set higher than the value of the stevedoring companies (Table 2).

When analyzing the financial deviations from the reference value of the corporate activities of the selected companies during the period of 2010–2014 (Fig. 8), it is evident that these deviations are uneven. The greater the negative deviation of the financial indicator is, the greater the operational risk of the company is.

The largest deviations are observed in the KSSPA, yet the deviation tends to show a decline. The year 2012 is distinguished as when the deviation was the greatest. In analyzing the indicators, it was found that the leverage indicators had the greatest influence (reference value 0.25, deviation 8.3), which exceeded the next period's values. This trend reflects the KSSPA's position of accumulating funds and funding for the LNG terminal. In the described case, it is considered to be a positive deviation. After starting to invest into the construction of the LNG terminal in 2013–2014, the KSSPA's indicators of current solvency and return on equity ROE became worse.

The deviations from the reference values of the financial indicators of KLASCO (which is a consistently operating company that has not altered its main specialization and operating concepts) tend to consistently decrease, and the largest deviation was in 2011 during the post-crisis period. During that period, the effects of the crisis were manifested as an inertia effect in the maritime sector (the direct effects of the crisis, i.e. the decrease in sea-transported freight flows, came after the crisis itself), thus the deviation of the Return On Sales ROS indicator was three times bigger in 2011 compared to the prior period. Later on, the company's operations stabilized and the deviation significantly decreased (Fig. 8).

The application of the integrated financial indicator analysis created preconditions to positively evaluate the operational indicators of Klaipėdos Smeltė, which assessed separately, were one of the worst (Table 1) and had negative deviation according to the integrated analysis (Fig. 8). After the company started radically changing its specialization (oriented to container handling) and investing in the constructions of the hub centre, the company's leverage indicator exceeded the reference value by three times in 2012–2013 (negative deviation), plus the Return on Operating Assets and Equity indicators significantly decreased. Once the construction of the container hub centre was completed in 2014–2015, the total deviation became very small (Fig. 8). The company's activities have stabilized.

Accordingly, the system of integrated indicators defines the activities of the companies and their financial state more accurately and allows an identification of the weak areas of the companies.

## 5. Conclusions

1. The theoretical basis for applying the methodology of an integrated analysis of financial indicators for the evaluation of the performance of public and private sector companies operating in the maritime industry in relation to local and global economics, can be described by the following factors:
  - The maritime industry can be characterized as an international global economic activity. It is reasonable to evaluate the impact of the global economic cycle because it changes the economic environment – from stable to developing and unstable. The results of the economic analysis of the business companies' activities are particularly relevant to the investors and companies' managers. From the investors' point of view, the analysis is important for foreseeing future events, and for the managers it is important for predicting the near future and for planning business continuity.
  - The analysis of the influence that the business cycles have on port activities allows making assumptions and planning the activities, as well as increasing stability and effectiveness. Due to the fact that the sea port operates globally, its activities reflect the trends of economics development of the countries the port cooperates with. That is why the port activities reflect the economic growth or national economic crises to a great extent, while their operational activities also depend on regional and world economic processes. The analysis of the state seaport's management and performance results refutes the critical opinions regarding public sector management performance – the port's management is based on the partnership of public and private sector companies, with the government also investing in the development of the port infrastructure, thus expanding the area of the private sector companies to operate effectively.
  - The effectiveness of a company may be evaluated in the short-term and long-term considering the aims and prospects of activities.
  - In order for the companies to remain in the competitive market and to ensure the continuity of business, they must analyse their performance, and apply performance analysis methodologies, which describe the current situation more accurately and allow forecasting the development possibilities more objectively. The integration of different attitudes into the assessment of effectiveness may be considered to be the degree of achievement of the given tasks. It was found that currently, the most commonly used methodology of assessing the corporate financial position and operating results, which analyses the absolute financial and relative financial indicators, is not sufficient. It is more rational to apply an integrated analysis of the financial results. The peculiarity of the integrated analysis methodology is the standardization of the indicators and the analysis of their deviation from standardized meanings.
2. The analysis of the financial performance of public and private sector companies in the maritime industry of Lithuania using an integrated analysis of the financial results shows the following results:
  - The analysis of the state-owned Klaipėda seaport's performance results proved the necessity of applying the methodology of an integrated key performance indicator analysis – the management of the port is based on partnerships with public and private sector companies, with the government investing in the development of the port infrastructure, thus expanding the area of the private sector companies to operate effectively. The overall results obtained from the partnerships and co-operation in the port defines the port's competitiveness level. It is significant when attracting foreign investment, promoting the development and growth of the country's transport sector and the whole economy.
  - The success of Port of Klaipėda activities was affected by the port's universality. When the business and economic conditions vary, there is a higher probability of retaining the handling volume. It must be noted that even though



the port of Klaipėda is universal, the cargo handling companies tend to specialize in their particular activities and narrow down their scope of services. The variation of the key performance indicators of companies does not always match the variation of the indicators of the GDP as a consequence of the influence of the global maritime business market, and may exhibit different trends.

- According to the analysis of the profit indicator changes, it may be stated, that the profit of the selected stevedoring companies decreased during the financial recession period, but tended to increase in the post-crisis period. The trends exhibited in the losses and profits of the private stevedoring business companies are related to the development of the port infrastructure and the cargo handling terminals, the superstructure.
- The Klaipėdos Smelte, JSC stevedoring company started changing its specialization in 2008, and started building a new container distribution centre in 2012, which changed the status of the whole Klaipėda port from a feeder to a hub port, and in the aforementioned periods of time, all its financial performance indicators were at their worst levels. After the restructuring and regeneration of the company, the situation was stabilized. Despite the low rank of key performance indicators, the results of the integrated analysis of financial indicators shows a positive trend, as the deviation from the reference standard value is very small, almost the same as KLASCO, the biggest Klaipėda port stevedoring company.
- The largest financial deviations are observed in the state enterprise, the Klaipėda State Seaport Authority, yet the deviations tend to show a decline. This trend is in line with the KSSPA's position of accumulating funds and funding for the LNG terminal. After starting to invest in the construction of the LNG terminal in 2013–2014, the KSSPA's indicators of current solvency and return on equity became worse.

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